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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,103	09/16/2003	John D. Reed	CS23599RL	1627

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EXAMINER	
DEAN, RAYMOND S	
ART UNIT	**PAPER NUMBER**
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/663,103	REED ET AL.	
	Examiner	Art Unit	
	Raymond S. Dean	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 18, 2007 have been fully considered but they are not persuasive.

Regarding Applicants' assertion on Page 6, 3rd Paragraph "note that power control is not synonymous with communication channel variance"

The term "communication channel variance" is a broad term, which reads on a variety of changes to a communication channel such as changes in the quality of the channel or link. It is very well established in the art that closed-loop power control comprises adjusting the power in response to a change in link quality such as a change in the signal-to-interference ratio (SIR). Gholmieh, thus, reads on the limitation in question. Gholmieh, as detailed in the Office Action dated May 21, 2007, further teaches establishing a headroom value based on the communication channel variance condition. The headroom value changes in response to the power control commands (See Section 0009 of Gholmieh). The power control commands are sent as a result of the change in the channel or link quality thus the headroom value changes ultimately in response to the change in the channel or link quality.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 – 4, 8 – 9, 11 – 14, 16 – 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Gholmich et al. (US 2004/0147276).

Regarding Claim 1, Gholmich teaches a method for establishing headroom for a mobile station operating in a wireless communication system comprising the steps of: determining a communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, closed-loop reverse power control comprises determining channel variance conditions such as changes in link quality); and establishing a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028).

Regarding Claim 2, Gholmich teaches all of the claimed limitations recited in Claim 1. Gholmich further teaches wherein the mobile station performs the steps of determining and establishing (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, when the mobile increases it's power due to the channel condition the headroom of the mobile will be decreased).

Regarding Claim 12, Gholmich teaches a mobile station comprising: means for determining a communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, when the mobile increases it's power due to the channel condition the headroom of the mobile will be decreased); and means for

establishing a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, when the mobile increases it's power due to the channel condition the headroom of the mobile will be decreased).

Regarding Claim 16, Gholmich teaches a wireless communication system comprising: a base station; at least one mobile station (Figure 1); means for determining a communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028, closed-loop reverse power control comprises determining channel variance conditions such as changes in link quality); and means for establishing a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028).

Regarding Claims 3, 13, Gholmich teaches all of the claimed limitations recited in Claims 2, 12. Gholmich further teaches wherein the mobile station determines a maximum data rate based on the headroom value (Sections 0010, 0036) and sends the maximum data rate to a base station (Sections 0010, 0036).

Regarding Claims 4, 14, Gholmich teaches all of the claimed limitations recited in Claims 2, 12. Gholmich further teaches wherein the mobile station determines a maximum data rate based on the headroom value (Sections 0010, 0036) and sends a rate adjustment request to a base station (Section 0010).

Regarding Claim 8, Gholmich teaches all of the claimed limitations recited in Claim 1. Gholmich further teaches wherein a base station performs the steps of determining and establishing (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0026 – 0028).

Regarding Claim 9, Gholmich teaches all of the claimed limitations recited in Claim 8. Gholmich further teaches wherein the step of determining a communication channel variance condition includes examination of an inner loop power control bit stream (0021 lines 3 – 7).

Regarding Claim 11, Gholmich teaches all of the claimed limitations recited in Claim 8. Gholmich further teaches determining a data rate assignment for a mobile station using the headroom value (Sections 0010, 0036) and sending the data rate assignment to the mobile station (Sections 0010, 0036).

Regarding Claim 17, Gholmich teaches all of the claimed limitations recited in Claim 16. Gholmich further teaches means for determining a data rate based on the headroom value (Sections 0010, 0036).

Regarding Claim 18, Gholmich teaches all of the claimed limitations recited in Claim 17. Gholmich further teaches means for sending the data rate between the base station and said at least one mobile station (Figure 1, Sections 0010, 0036).

4. Claims 5 – 6, 15, 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmich et al. (US 2004/0147276) in view of Corazza (US 6,563,810).

Regarding Claims 5, 15, 19, Gholmich teaches all of the claimed limitations recited in Claims 2, 12, 16. Gholmich does not teach detecting a battery condition of the mobile station; and modifying the headroom value based on the battery condition.

Corazza teaches detecting a battery condition of the mobile station; and modifying the headroom value based on the battery condition (Col. 6 lines 30 – 51, the headroom value, R sub Step2, is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of it's dependence on the maximum transmit power).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Gholmich with headroom adjustment method of Corazza for the purpose providing an alternative means of determining a maximum data rate.

Regarding Claim 6, Gholmich in view of Corazza teaches all of the claimed limitations recited in Claim 5. Corazza further teaches determining if the battery condition relates to a low battery level; and if the battery condition relates to a low battery level, increasing the headroom value (Col. 6 lines 30 – 51, the headroom value, R sub Step2, is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of it's dependence on the maximum transmit power).

Regarding Claim 20, Gholmich in view of Corazza teaches all of the claimed limitations recited in Claim 19. Gholmich further teaches means for determining a data rate based on the headroom value (Sections 0010, 0036); and means for sending the data rate between the base station and said at least one mobile station (Figure 1, Sections 0010, 0036).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmich et al. (US 2004/0147276) in view of Czaja et al. (US 7,023,822).

Regarding Claim 7, Gholmich teaches all of the claimed limitations recited in Claim 2. Gholmich does not teach wherein determining a communication channel variance condition includes measuring a variance in a primary pilot power.

Czaja teaches measuring a primary pilot power (Column 2 lines 35 – 43, lines 48 – 49, Column 3 lines 15 – 16, Column 10 lines 47 – 54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the pilot power measurement method of Czaja in the mobile stations of Gholmich for the purpose of determining the proper time to perform a handoff initiation as taught by Czaja.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmich et al. (US 2004/0147276) in view of Rezaiifar et al. (US 2003/0002464).

Regarding Claim 10, Gholmich teaches all of the claimed limitations recited in Claim 9. Gholmich does not teach sending the headroom value to the mobile station.

Rezaiifar further teaches sending the headroom value to the mobile station (Sections 0095 – 0096, the max rate possible, which comprises the headroom value, is sent to the mobile station so that said mobile station can transmit at a particular data rate on the reverse link).

Gholmich and Rezaiifar both teach a CDMA system in which a headroom value is established thus it would have been obvious to one of ordinary skill in the art at the

time the invention was made to use the headroom establishment method of Rezaiifar as an alternative means for establishing a headroom value.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raymond S. Dean
August 15, 2007

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